

ABSTRACT

An apparatus and method is arranged to dynamically adjust a pulse width (e.g., off-time pulse) associated with a switching device in a converter such as a buck converter, a boost converter, or a buck-boost regulator. A one-shot circuit is configured to dynamically initiate a pulse cycle for the switching converter when the output voltage collapses to a level that is related to a monitored inductor current in the converter. By changing the start time associated with the one-shot circuit, the pulse-width (e.g., off-time pulse) associated with the switching device is varied. In one example, the one-shot circuit is triggered when the inductor current is sensed as decaying below a threshold.

The one-shot circuit can be further arranged to have another pulse-width (e.g., on-time pulse) that is adjusted for phase alignment with a reference frequency using a PLL circuit.

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